

1    What is claimed is:

2    1.    An apparatus for making a cigarette smoking article, comprising:

3        a cigarette maker having a garniture and a bobbin for paying out a strip of a paper

4        wrapper to the garniture for wrapping about smokable material to form a cigarette rod; and

5        an adhesive applicator apparatus for applying bands of an adhesive to the paper wrapper,

6        the adhesive applicator apparatus comprising a pair of counter-rotating rollers arranged between

7        the bobbin and the garniture.

8

9    2.    The apparatus of claim 1, wherein the adhesive applicator apparatus comprises:

10        a pattern roller,

11        an application roller, and

12        an adhesive feed shoe arranged to deposit the adhesive on the pattern roller immediately

13        upstream of a nip between the rollers,

14        the pattern roller and the application roller each having a peripheral surface,

15        the rollers adapted to contact the peripheral surfaces with one another for transferring the

16        adhesive from the pattern roller to the application roller,

17        the application roller and the paper wrapper adapted to contact the peripheral surface of

18        the application roller with the paper wrapper for applying the adhesive transferred from the

19        pattern roller to the paper wrapper.

20

21    3.    The apparatus of claim 2, further comprising a drip box enclosing a lower portion of the

22        rollers for catching adhesive from the rollers.

23

24    4.    The apparatus of claim 2, further comprising a means for engaging the peripheral

25        surfaces of the rollers.

26

27    5.    The apparatus of claim 2, wherein the application roller is positioned to bear against the

28        paper wrapper to transfer the adhesive to the wrapper.

29

30    6.    The apparatus of claim 2, wherein the pattern roller further comprises a plurality of

31        transverse grooves spaced circumferentially about the peripheral surface of the pattern roller.

1  
2 7. The apparatus of claim 6, wherein each groove is adapted to contain a predetermined  
3 amount of the adhesive.

4  
5 8. The apparatus of claim 1, wherein the bands comprise a longitudinally spaced, cross-  
6 directional pattern, the bands having a predetermined width and spacing.

7  
8 9. The apparatus of claim 1, further comprising a dryer arranged between the adhesive  
9 applicator apparatus and the garniture for drying the adhesive applied to the paper.

10 10. The apparatus of claim 9, wherein the dryer comprises an infrared dryer.

11 11. The apparatus of claim 1, further comprising a heater arranged between the bobbin and  
12 the adhesive applicator apparatus for preheating the paper wrapper.

13 12. The apparatus of claim 11, wherein the heater comprises an infrared heater.

14 13. The apparatus of claim 1, the paper wrapper having an inside surface and an outside  
15 surface, wherein the adhesive applicator apparatus is arranged to apply the bands of adhesive to  
16 the inside surface of the paper wrapper.

17 14. The apparatus of claim 1, the paper wrapper having an inside surface and an outside  
18 surface, wherein the adhesive applicator apparatus is arranged to apply the bands of adhesive to  
19 the outside surface of the paper wrapper.

20 15. An apparatus for making a cigarette smoking article, comprising:  
21 a cigarette maker having a garniture and a bobbin for paying out a strip of a paper  
22 wrapper to the garniture for wrapping about a rod of smokable material to form a cigarette rod;  
23 and

1                   an adhesive applicator apparatus arranged between the bobbin and the garniture for  
2 applying bands of an adhesive to the paper wrapper, the adhesive applicator apparatus further  
3 comprising  
4                   (a) a pattern roller having a peripheral surface with a plurality of transverse grooves  
5 spaced circumferentially about the peripheral surface of the pattern roller, each groove adapted to  
6 contain a predetermined amount of the adhesive,  
7                   (b) an application roller having a peripheral surface,  
8                   (c) an adhesive feed shoe arranged to deposit the adhesive on the pattern roller  
9 immediately upstream of a nip between the rollers,  
10                  (d) the rollers being adapted to contact the peripheral surfaces with one another for  
11 transferring the adhesive from the pattern roller to the application roller, and  
12                  (e) the application roller and the paper wrapper being adapted to contact the peripheral  
13 surface of the application roller with the paper wrapper for applying the adhesive transferred  
14 from the pattern roller to the paper wrapper,  
15                  wherein the bands comprise a predetermined width and spacing and a longitudinally  
16 spaced, cross-directional pattern.

17  
18       16. An apparatus for applying bands of an adhesive to a paper wrapper in a cigarette maker  
19 having a garniture and a bobbin for paying out a strip of the paper wrapper to the garniture for  
20 wrapping about smokable material to form a cigarette rod, the apparatus comprising:  
21                  a pair of counter-rotating rollers arranged between the bobbin and the garniture.

22  
23       17. The apparatus of claim 16, further comprising:  
24                  a pattern roller,  
25                  an application roller, and  
26                  an adhesive feed shoe arranged to deposit the adhesive on the pattern roller immediately  
27 upstream of a nip between the rollers,  
28                  the pattern roller and the application roller each having a peripheral surface,  
29                  the rollers adapted to contact the peripheral surfaces with one another for transferring the  
30 adhesive from the pattern roller to the application roller,

1           the application roller and the paper wrapper adapted to contact the peripheral surface of  
2   the application roller with the paper wrapper for applying the adhesive transferred from the  
3   pattern roller to the paper wrapper.

4

5   18.   The apparatus of claim 17, further comprising a means for engaging the peripheral  
6   surfaces of the rollers.

7

8   19.   The apparatus of claim 17, wherein the application roller is positioned to bear against the  
9   paper wrapper to transfer the adhesive to the wrapper.

10

11   20.   The apparatus of claim 17, wherein the pattern roller further comprises a plurality of  
12   transverse grooves spaced circumferentially about the peripheral surface of the pattern roller.

13

14   21.   The apparatus of claim 20, wherein each groove is adapted to contain a predetermined  
15   amount of the adhesive.

16

17   22.   The apparatus of claim 17, wherein the bands comprise a longitudinally spaced, cross-  
18   directional pattern, the bands having a predetermined width and spacing.

19

20   23.   An apparatus for applying an additive material to a strip of a paper wrapper within a  
21   cigarette maker, the apparatus comprising:

22           a transfer roller having a peripheral surface;

23           an application roller having a peripheral surface;

24           a means for supplying the additive material to a portion of the peripheral surface of the  
25   transfer roller;

26           a means for transferring the additive material from the peripheral surface of the transfer  
27   roller to predetermined locations on the peripheral surface of the application roller; and

28           a means for transferring the additive material from the predetermined locations on the  
29   peripheral surface of the application roller to predetermined locations on the paper wrapper strip.